



C18 ACERT™
Industrial Engine
Tier 3/Stage IIIA
470 bkW/630 bhp @ 2100 rpm

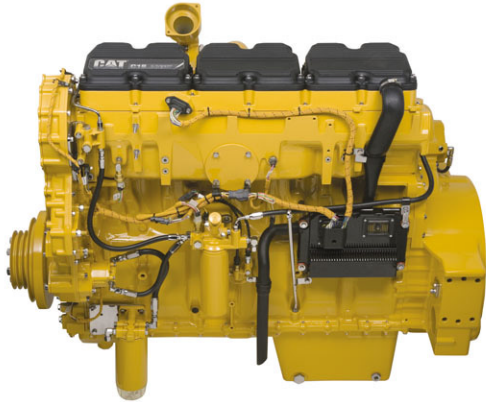


Image shown may not reflect actual engine

CAT® ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

Bore.....	145.0 mm (5.71 in)
Stroke.....	183.0 mm (7.2 in)
Displacement.....	18.1 L (1,104.53 in ³)
Aspiration.....	Turbocharged Aftercooled
Compression Ratio.....	16.3:1
Rotation (from flywheel end).....	Counterclockwise
Weight, Net Dry (approximate).....	1769 kg (3900 lb)

FEATURES

Emissions & Regulations

Meets U.S. EPA Tier 3, EU Stage IIIA and China Stage II emissions requirements.

Worldwide Supplier Capability

Caterpillar
- Casts engine blocks, heads, cylinder liners, and flywheel housings
- Machines critical components
- Assembles complete engine
- Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities
Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.

Testing

Prototype testing on every model:
- proves computer design
- verifies system torsional stability
- functionality tests every model

Every Caterpillar engine is dynamometer tested under full load to ensure proper engine performance.

Full Range of Attachments

Wide range of bolt-on system expansion attachments, factory designed and tested.

Unmatched Product Support Offered Through Worldwide Caterpillar Dealer Network

More than 1,800 dealer outlets
Caterpillar factory-trained dealer technicians service every aspect of your industrial engine
99.7% of parts orders filled within 24 hours worldwide
Caterpillar parts and labor warranty
Preventive maintenance agreements available for repair before failure options

Scheduled Oil Sampling program matches your oil sample against Caterpillar set standards to determine:

- internal engine component condition
- presence of unwanted fluids
- presence of combustion by-products

Web Site

For all your industrial power requirements, visit www.cat-industrial.com.



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STANDARD ENGINE EQUIPMENT

Air Inlet System

Turbocharged Aftercooled -- 429-470 bkW (575-630 bhp)
Twin Turbocharged Aftercooled -- 522-597 bkW (700-800 bhp)
ATAAC

Charging System

Charging alternator 24 volt, 50 amp

Control System

Electronic governing
PTO speed control
Programmable ratings
Cold mode start strategy
Automatic altitude compensation
Power compensation for fuel temperature
Programmable low and high idle and total engine limit
Electronic diagnostics and fault logging
Engine monitoring system
J1939 Broadcast (diagnostic and engine status)
ADEM™ A4

Cooling System

Thermostats and housing, vertical outlet
Jacket water pump, centrifugal
Water pump, inlet

Exhaust System

Exhaust manifold, dry
Optional exhaust outlet

Flywheels and Flywheel Housing

SAE No. 1 Flywheel housing

Fuel System

MEUI injection
Fuel filter, secondary (2 micron high performance)
Fuel transfer pump
Fuel priming pump
ACERT™ Technology

Lube System

Crankcase breather
Oil cooler
Oil filler
Oil filter
Oil pan front sump
Oil dipstick
Oil pump (gear driven)

General

Paint, Caterpillar Yellow
Vibration damper
Lifting eyes



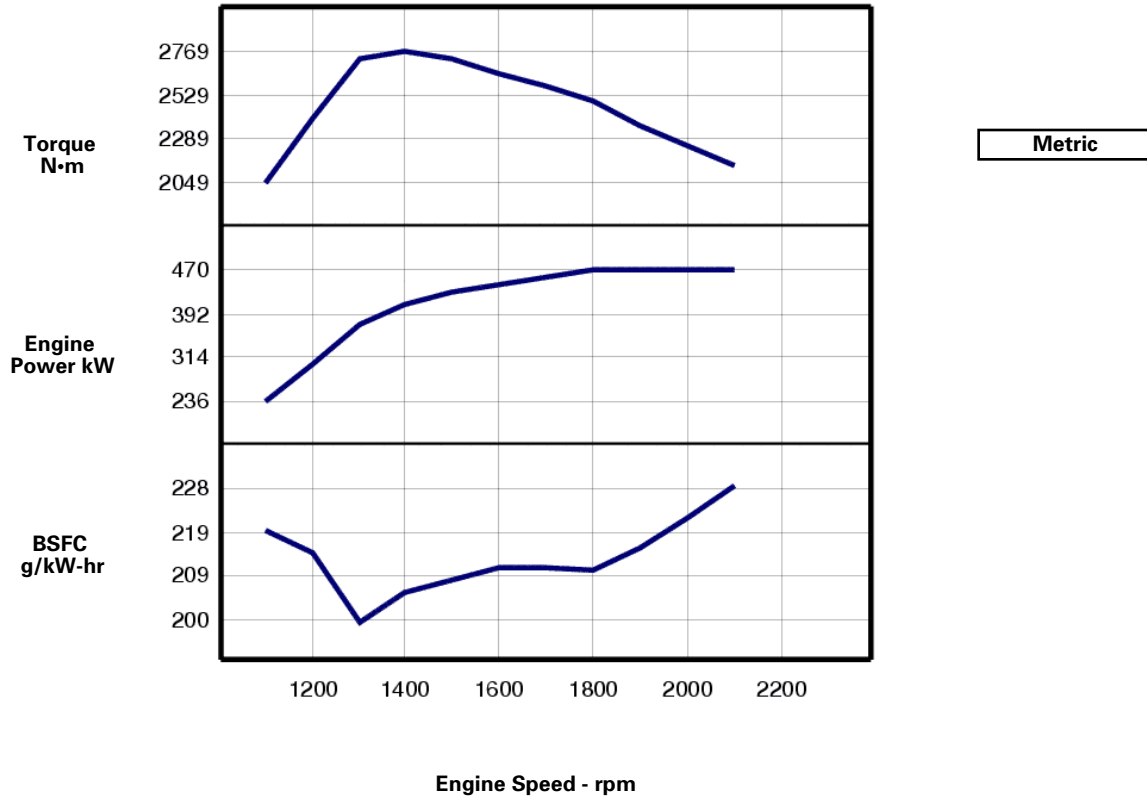
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PERFORMANCE CURVES

IND - C (Intermittent) - DM7699-02



Engine Speed rpm	Engine Power kW	Torque N·m	BSFC g/kW-hr	Fuel Rate L/hr
2100	470	2137	233.8	131.0
2000	470	2244	229.9	128.8
1900	470	2362	224.5	125.8
1800	470	2493	218.9	122.6
1700	465	2611	214.5	118.8
1600	455	2714	212.5	115.2
1500	441	2807	211.4	111.1
1400	422	2879	210.7	106.0
1300	387	2842	210.3	97.0
1200	309	2457	211.3	77.8
1100	258	2243	214.4	66.0



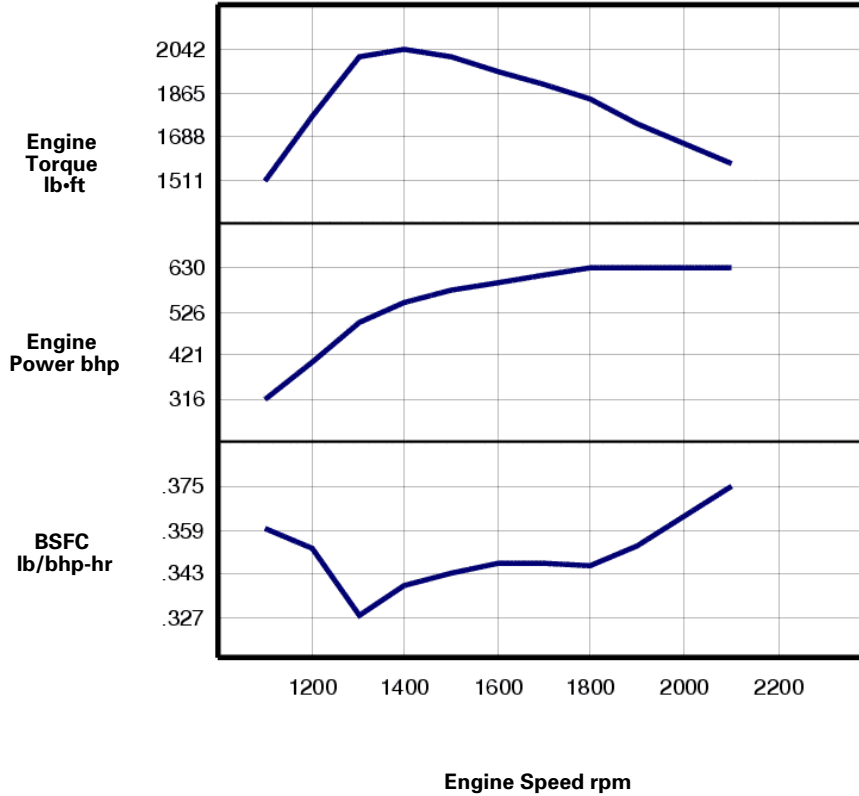
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PERFORMANCE CURVES

IND - C (Intermittent) - DM7699-02



Engine Speed rpm	Engine Power bhp	Engine Torque lb-ft	BSFC lb/bhp-hr	Fuel Rate gal/hr
2100	630	1576	.384	34.6
2000	630	1655	.378	34.0
1900	630	1742	.369	33.2
1800	630	1839	.360	32.4
1700	623	1926	.353	31.4
1600	610	2002	.349	30.4
1500	591	2070	.348	29.3
1400	566	2123	.346	28.0
1300	519	2096	.346	25.6
1200	414	1812	.347	20.6
1100	347	1654	.352	17.4



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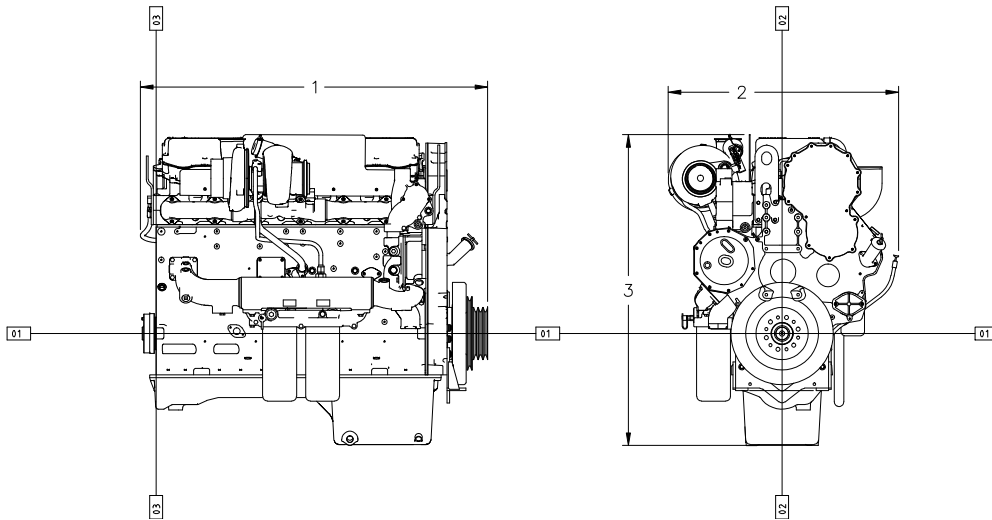
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RATINGS AND CONDITIONS

IND - C (Intermittent) Intermittent service where maximum power and/or speed are cyclic (time at full load not to exceed 50%).

Engine Performance Diesel Engines — 7 liter and higher

All rating conditions are based on SAE J1995, inlet air standard conditions of 99 kPa (29.31 in. Hg) dry barometer and 25°C (77°F) temperature. Performance measured using a standard fuel with fuel gravity of 35° API having a lower heating value of 42,780 kJ/kg (18,390 btu/lb) when used at 29° C (84.2° F) with a density of 838.9 g/L.



Engine Dimensions

(1) Length	1388.2 mm (54.65 in)
(2) Width	920.7 mm (36.25 in)
(3) Height	1242.8 mm (48.93 in)

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # 2588747).

Performance Number: DM7699-02

Feature Code: C18DI01 Arr. Number: 2371955

Materials and specifications are subject to change without notice.

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